



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

July 31, 2015

Sam Ghantous  
Global Head, Product Safety & Regulations  
Authorized Agent for Falcon Lab, LLC  
Emery Oleochemicals, LLC  
4900 Este Avenue  
Cincinnati, OH 45232

Subject: Pesticide Registration Improvement Act (PRIA) Labeling and Formulation Amendment – Revisions to the label including directions for use as a “Harvest Aid for Organic Cotton”, remove the toxicity to bees statement based on submitted bee data, reduce the restricted-entry interval (REI) from 24 hours to 4 hours based on submitted REI analysis report, and other minor labeling changes, and update list of producers and EPA Establishment Nos. on the basic Confidential Statement of Formula (CSF).  
Product Name: FL-AN540OP  
EPA Registration Number: 79766-5  
Application Date: January 27, 2015  
OPP Decision Number: 499779

Dear Mr. Ghantous:

The amended labeling and CSF referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, are acceptable.

This approval does not affect any terms or conditions that were previously imposed on this registration. You continue to be subject to existing terms or conditions on your registration and any deadlines connected with them.

Please note that the record for this product currently contains the following acceptable CSF:

- Basic CSF dated 01/19/2015

Any CSFs other than those listed above are superseded/no longer valid.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one (1) copy of the final printed labeling before you release this product for shipment with the new labeling. In accordance with 40 CFR § 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling

or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 § CFR 152.3.

Should you wish to add/retain a reference to your company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the U.S. Environmental Protection Agency (EPA). If the website is false or misleading, the product will be considered to be misbranded and sale or distribution of the product is unlawful under FIFRA section 12(a)(1)(E). 40 CFR § 156.10(a)(5) lists examples of statements the EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the EPA find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance Assurance.

Your release for shipment of this product constitutes acceptance of these terms. If these terms are not complied with, this registration will be subject to cancellation in accordance with FIFRA section 6.

If you have any questions, please contact Colin G. Walsh of my team by phone at (703) 308-0298 or via email at walsh.colin@epa.gov.

Sincerely,

A handwritten signature in blue ink that reads "Andrew C. Bryceland". The signature is fluid and cursive, with the first name being the most prominent.

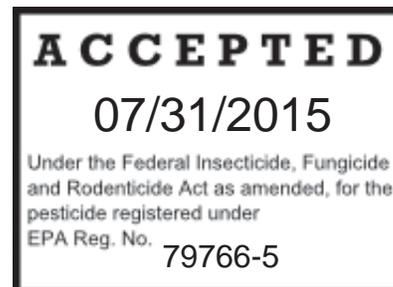
Andrew C. Bryceland, Team Leader  
Biochemical Pesticides Branch  
Biopesticides and Pollution  
Prevention Division (7511P)  
Office of Pesticide Programs

Enclosure



# FL-AN540OP

Non-selective Herbicide



## MASTER LABEL

### SUBLABEL A: FOR AGRICULTURAL USE

FOR CONTACT SPRAY CONTROL OR BURNDOWN OF WEEDS AND GRASSES.  
FOR ORNAMENTALS, TURF AND TREES IN AND AROUND FARMS, FORESTS, NURSERIES AND GREENHOUSES.  
FOR USE AS; COTTON CROP HARVEST AID AND DESICCANT.

### SUBLABEL B: FOR COMMERCIAL USE

FOR CONTACT SPRAY CONTROL OR BURNDOWN OF WEEDS AND GRASSES.  
FOR USE IN STRUCTURAL PEST CONTROL, CONTROL OF VEGETATION IN PASTURE AND RANGELAND. FOR USE IN PARKS, GOLF COURSES, GREENHOUSES AND COMMERCIAL TURF AND GROUNDS

Active ingredient:

Ammonium Nonanoate . . . . .	40.0 wt. %
Other ingredients . . . . .	60.0 wt. %
Total . . . . .	100.00 wt. %

**SUBLABEL A: FOR AGRICULTURAL USE**

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**FL-AN540OP**

**Non-selective Herbicide**



**Active ingredient:**

Ammonium Nonanoate . . . . . 40.0 wt.%  
Other ingredients . . . . . 60.0 wt.%  
Total . . . . . 100.00 wt.%

FL-AN540OP contains 3.3 lbs. of ammonium nonanoate per US gallon

**KEEP OUT OF REACH OF CHILDREN**

**WARNING “AVISO”**

**"Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)"**

<b>FIRST AID</b>	
<b>If in eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>EMERGENCY NUMBER</b>	
<b>FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE, CALL THE NATIONAL POISON CONTROL CENTER 1-800-222-1222.</b>	
Have the product container or label with you when calling a poison control center or doctor.	

This product is protected by U. S. Patent No. 6,323,156

EPA Reg. No.79766-5

EPA Establishment No. 87663-OH-001, 72038-DE-001, 06574-KY-001, 064784-OK-001, 75822-TN-001

Lot No. xxxxxxxx

Net Contents: 3,4,16 & 32 fl oz, 1, 2.5,5, 55, 270 & 6000 gals

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**Warning.** Causes substantial, but temporary eye irritation. Do not get in eyes or on clothing. Wear goggles. Harmful if inhaled. Avoid breathing spray mist. Causes moderate skin irritation. Avoid contact with skin or on clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Remove and wash contaminated clothing before reuse.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

##### Applicators and other handlers must wear:

- Coveralls worn over short-sleeve shirt and short pants
- Socks and chemical resistant footwear
- Chemical resistant gloves
- Protective eyewear
- When mixing and loading wear a chemical resistant apron

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergents and hot water. Keep and wash PPE separately from other laundry.

#### USER SAFETY RECOMMENDATIONS

##### Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### ENVIRONMENTAL HAZARDS

**For terrestrial uses:** This pesticide is toxic to fish and aquatic invertebrates. Use care when applying in areas adjacent to any body of water. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water or rinsate. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

## DIRECTIONS FOR USE

**It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the State/Tribal agency responsible for pesticide regulation.**

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated such as plants, soil, or water is:

- Coveralls worn over short-sleeve shirt and short pants
- Socks and chemical resistant footwear
- Chemical resistant gloves
- Protective eyewear

### METHODS OF USE AND GENERAL APPLICATION INSTRUCTIONS

#### General Instructions:

**FL-AN540OP** is a contact non-selective herbicide for spray application only to undesirable plant growth. Do not allow spray to contact any green plant parts of desirable plants. **FL-AN540OP** provides control and burndown suppression of annual and perennial broadleaf and grass weeds. Spore producing plants such as mosses and liverworts are also controlled. The amount of burndown and the duration of weed suppression may be reduced when weed growth conditions are unfavorable or when plants are mature.

**FL-AN540OP** is non-volatile and water soluble for foliar application in tractor powered field-type sprayers or manual pump sprayers. Complete and uniform coverage of weeds by the spray solution is required for the best weed control. Plant foliage will change from a green color to brown/black necrotic tissue within one to two hours after spray application of **FL-AN540OP** diluted with water. **FL-AN540OP** effect on plant tissue may be more rapid in warm weather than in cold conditions. However, weed control is normally unaffected by temperature.

**FL-AN540OP** herbicide is a soap product which penetrates the cell walls of plants to disrupt the cellular organization of physiological functions which are compartmentalized by membranes within the cell walls. Plant growth ceases when cellular contents are mixed which causes brown necrotic plant tissue.

**FL-AN540OP** does not migrate through the soil and is not translocated in plants. **To ensure satisfactory control, plant leaves must be thoroughly and uniformly covered with the spray solution.** **FL-AN540OP** does not provide any residual weed control in soil to affect germinating weed seeds.

### **Mixing and Application Instructions:**

For use, **FL-AN540OP** is diluted with water to the specified concentration for effective control of the undesirable vegetation. Apply using standard methods of liquid herbicide application. Dilution must be in accordance with label instructions. Do not apply this product through any type of irrigation system.

A 12% v/v dilution is recommended for most weed control situations and based on the results, applicators may increase or decrease spray concentrations as discussed in the following text and tables to obtain better control or to reduce herbicide use.

**The degree of dilution for application is based on the concentration of active ingredient needed for the size of vegetation to be suppressed or the rate of herbicidal effect desired. The larger the vegetation, the higher the concentration (less dilution of FL-AN540OP) required for rapid action. See required concentration for variously sized weeds and grasses in Dosage and Application Rates Section. Hard to control or suppress weeds (perennial weeds and some grasses) may require several applications for complete control.**

Spray equipment options include hand-held, boom sprayers, pressure sprayers and hose-end sprayers. Spray nozzles that produce a uniform spray will give maximum coverage of the leaves and improved weed control. **FL-AN540OP** is completely soluble in water and when uniformly mixed, no additional mixing or agitation is required.

### **Application Precautions:**

- Do not apply to weeds when wet from dew, rain or irrigation.
- Do not irrigate within 2 hours after application
- Do not apply if rainfall is expected within 2 hours.

During application, some foaming may occur; however, weed control is unaffected if the foam is deposited on the plant surface and is not blown away as drift. Foaming can be reduced by using the minimum spray pressure required for a uniform application to the target weeds. Use low spray pressure to reduce foaming and avoid contact with desirable plants. Most spray nozzles are designed to operate at 10 to 15 psi and provide uniform spray coverage of weeds.

### **Mixing:**

Fill sprayer tank with half the required amount of water, add the full amount of **FL-AN540OP** to be used (see Dilution Factors below), then fill the sprayer tank with the remainder of the water required for the desired final concentration. Since **FL-AN540OP** is completely soluble in water and when uniformly dispersed in water, continuous mixing or agitation is not required.

## Broadcast Application with Field Sprayer Boom Equipment

The amount of weed vegetation will determine the spray volume required for complete coverage of undesired plants (weeds). Weed vegetation conditions that affect spray coverage are number of weeds present, leaf shape, weed size and weed species. For weeds of over 1 inch height do not use less than 30 gal/acre. Large weeds of 12 to 18 inch height may require 80 to 125 gal/acre or more for control.

## Hand-Held Equipment

Thorough saturation of the foliage and stems is required for control, but stop sprays when run-off from weed leaves occurs. Use low spray pressure to reduce foaming and avoid contact with desirable plants. Most spray nozzles are designed to operate at 10 to 15 psi and provide uniform spray coverage of weeds.

## Directed Spray Equipment

Use a shielded sprayer to prevent spray contact on desirable plants. Avoid spray contact of green plant stems or green bark of young trees and shrubs.

**NOTE:** In areas of hard water, the final mixture may appear milky. This condition does not change the effectiveness of the treatment. Some visible foam may appear on the leaves as the plants are sprayed. Overspray or drift onto desirable plants is usually not a serious problem because leaves and stems require a thoroughly wet spray coverage for significant injury. Repeat applications as often as necessary to obtain desired control.

## Dosage and Application Rates:

For general weed and grass control, rates are based on the size of the plants and/or the desired speed of kill. The larger the plants, the higher the dosage rates needed to ensure maximum herbicidal activity. Also, the higher the concentration, the quicker the plants wilt and turn brown. Apply **FL-AN540OP** spray solutions only when weed surfaces are dry.

The rate table presents the suggested percent volume/volume solutions of **FL-AN540OP** to use for application as follows:

- Use a 6 to 8 % V/V **FL-AN540OP** spray solution for control of annual weeds of 1 inch height or less and for control of liverworts and mosses.
- Use an 8 to 10% V/V **FL-AN540OP** spray solution for control of annual weeds over 1 inch height and up to 4 inch height.
- Use a 10 to 13% V/V **FL-AN540OP** spray solution for weeds over 4 inch height and for hard to control weeds.
- A 15% V/V **FL-AN540OP** spray solution is the maximum labeled rate for weed control. Use this rate for hard to control perennial weeds or extremely dense weed growth.

Repeat spray applications as necessary to obtain the desired control or suppression of weeds from newly germinated weed seeds and regrowth from roots or stems.

## WEED CONTROL RATE TABLE

Final Spray Volume (gallons)	Amount of <b>FL-AN540OP</b> for Percent V/V (Volume/Volume) Solution				
	6%	8%	10%	13%	15%
1	8 fl oz	10 fl oz	13 fl oz	1 pt	1.2 pt
2	1 pt	1.3 pt	1.6 pt	2 pt	2.4 pt
5	2.5 pt	3.3 pt	4 pt	5 pt	6 pt
10	5 pt	6.5 pt	1 gal	1.3 gal	1.5 gal
20	1.3 gal	1.6 gal	2 gal	2.6 gal	3.0 gal

### Height of Plants to be Controlled

1 inch or less  
1 to 3 inches  
Above 3 inches

### Spray Solution (% V/V)

6 to 8%  
8 to 10%  
10 to 13%

## COTTON HARVEST AID AND DESSICANT RATE TABLE

Final Spray Volume Per Acre	AI (Ammonium Nonanoate) Concentration (%)	AI (Ammonium Nonanoate) Equivalent Amount (lbs)	FL-AN540OP Volume (gals)
15 gals	9	11.2	3.4
15 gal	11	16.8	5.0
15 gal	18	22.4	6.7

### Use Methods

Determine the weed control situation and select the use method required as follows:

- A. **Vegetative Burndown:** Broadcast spray for weed control for no-till planting or seedbed preparation to control weeds prior to seeding or transplanting. Spot sprays may be used in ornamentals and turf.
- B. **Directed and shielded sprays:** Spray nozzle type or configuration for directed spray or a shield placed around the nozzle to prevent spray contact on the foliage or green stems or bark. Directed/shielded spray applications to area between plastic mulch strips and staked crops for weed control.
- C. **Cotton Harvest Aid Application:** Make application when 70 to 80 percent of the bolls are open, or according to the State Agricultural Extension Service guidelines in the use area. Only apply if bolls to be harvested have matured. The recommended use rate is 11.2 – 22.4 lbs of AI in a final spray volume of 15 gallons per acre. Use the higher rate during periods of rank growth, extended periods of rain, or low temperatures. Apply as a broadcast spray at the recommended application rate of 15 gallons solution per acre to ensure complete coverage of cotton foliage.

Avoiding spray drift at the application site is the responsibility of the applicator and the grower. The following drift management conditions are recommended to avoid off-target movement. Use nozzles that produce a medium droplet size at a spray pressure of less than 30 psi. Make applications in the early morning if windy conditions are expected later in the day. An evening application may be appropriate to maximize spray coverage in the lower canopy, but only if temperature inversion conditions are not present.

## PESTS

### I. Weeds controlled or suppressed by **FL-AN540OP**:

#### COMMON NAMES

#### TAXONOMIC NAMES

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##### Broadleaf Weeds:

Algae	<i>Gloeocapsa magma</i>
Bittercress, hairy	<i>Cardamine hirsuta</i>
Chickweed, common	<i>Stellaria media</i>
Chickweed, mouse-ear	<i>Cerastium vulgatum</i>
Cocklebur, common	<i>Xanthium strumarium</i>
Corn spurry	<i>Spergula arvensis</i>
Cudweed, purple	<i>Gnaphalium purpureum</i>
Groundsel	<i>Senecio spp.</i>
Lambsquarters, common	<i>Chenopodium album</i>
Liverwort	<i>Machantia spp.</i>
Marestail or Horseweed rosettes	<i>Conyza canadensis</i>
Morningglory, annual	<i>Ipomoea spp.</i>
Moss	<i>Bryophyta</i>
Mustards	<i>Brassica spp.</i>
Oxalis or Woodsorrel	<i>Oxalis stricta</i>
Pansy, wild	<i>Viola tricolor</i>
Plantain	<i>Plantago spp.</i>
Pigweed, smooth and redroot	<i>Amaranthus spp.</i>
Mallow, roundleaved	<i>Malva spp.</i>
Moneywort	<i>Lysimachia nummularia</i>
Shepherdspurse	<i>Capsella bursa-pastoris</i>
Sorrel, sheep	<i>Rumex acetosella</i>
Spurge, spotted	<i>Euphorbia maculata</i>
Field pennycress	<i>Thiaspi arvense</i>
Velvetleaf	<i>Abutilon theophrasti</i>

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##### Grass and Other Weeds:

Bentgrass, colonial	<i>Agrostis tenuis</i>
Bluegrass, annual	<i>Poa annua</i>
Crabgrass, large	<i>Digitaria sanguinalis</i>
Fescue, creeping red	<i>Festuca rubra</i>
Fescue, hard	<i>Festuca ovina</i>
Nimblewill	<i>Muhlenbergia scheberi</i>
Onion, wild	<i>Allium canadense</i>
Ryegrass, perennial	<i>Lolium perenne</i>
Star-of-Bethlehem	<i>Ornithogalum nutans</i>

### II. Weeds Moderately Difficult to Control<sup>1</sup>

Bermudagrass (Wireweed)	<i>Cynodon dactylon</i>
Bindweed, field	<i>Convolvulus arvensis</i>
Dandelion	<i>Taraxacum officinale</i>
Nutsedge, yellow	<i>Cyperus esculentus</i>
Ragweed, common	<i>Ambrosia artemisiifolia</i>

<sup>1</sup>Use 13 to 15% V/V FL-AN540OP for control or suppression

## Crop Uses and Methods of Application\*

Group	Crop	Use Methods
Agronomic Crops	Cotton Harvest Aid and Desiccant for Organic cotton	c

\* Refer to the General Instructions section for Use Methods description.

### STORAGE AND DISPOSAL

**DO NOT** contaminate water, food or feed by storage or disposal.

**Pesticide Storage:** Store container in cool place until used. Store at temperatures above 32° F.

**Pesticide Disposal:** Wastes resulting from use of this product must be disposed of on-site or at an approved waste disposal facility.

#### Container Handling:

**Non-refillable Containers:** Do not reuse or refill this container. Offer for recycling if available.

**Clean container promptly after emptying (liquid formulations).**

**Non-refillable container equal to or less than 5 gals:** Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

**Non-refillable container between 5- 55 gals:** Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

**Refillable container 5 gals to bulk:** Refill this container with this pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

For non-medical emergencies or spills, see **FL-AN5400P** SDS or call CHEMTREC at 800-424-9300.

#### Warranty and Disclaimer Notice:

To the extent consistent with applicable law, Falcon Lab, LLC, makes no warranty or guarantee of any kind, expressed or implied concerning the effects of use of this product, other than those specified on this label. Buyers or users accept all responsibility for results due to misuse or improper handling of this product.

**Produced for  
Falcon Lab LLC  
4900 Este Avenue  
Cincinnati, OH 45232  
513-762-2500**

## **SUBLABEL B: FOR COMMERCIAL USE**

FOR CONTACT SPRAY CONTROL OR BURNDOWN OF WEEDS AND GRASSES.  
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 **FOR ORGANIC PRODUCTION**

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Other ingredients . . . . . 60.0 wt.%  
Total . . . . . 100.00 wt.%

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<b>If on skin or clothing</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing</li><li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
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#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

##### Applicators and other handlers must wear:

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##### Users should:

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- Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

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Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

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It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the State/Tribal agency responsible for pesticide regulation.

### NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Keep unprotected persons out of treated areas until sprays have dried.

## METHODS OF USE AND GENERAL APPLICATION INSTRUCTIONS

### General Instructions

**FL-AN540OP** is a contact non-selective herbicide for spray application only to undesirable plant growth. Do not allow spray to contact any green plant parts of desirable plants. **FL-AN540OP** provides control and burndown suppression of annual and perennial broadleaf and grass weeds. Spore producing plants such as mosses and liverworts are also controlled. The amount of burndown and the duration of weed suppression may be reduced when weed growth conditions are unfavorable or when plants are mature.

**FL-AN540OP** is non-volatile and water soluble for foliar application in tractor powered field-type sprayers or manual pump sprayers. Complete and uniform coverage of weeds by the spray solution is required for the best weed control. Plant foliage will change from a green color to brown/black necrotic tissue within one to two hours after spray application of **FL-AN540OP** diluted with water. **FL-AN540OP** effect on plant tissue may be more rapid in warm weather than in cold conditions. However, weed control is normally unaffected by temperature.

**FL-AN540OP** herbicide is a soap product which penetrates the cell walls of plants to disrupt the cellular organization of physiological functions which are compartmentalized by membranes within the cell walls. Plant growth ceases when cellular contents are mixed which causes brown necrotic plant tissue.

**FL-AN540OP** does not migrate through the soil and is not translocated in plants. **To ensure satisfactory control, plant leaves must be thoroughly and uniformly covered with the spray solution.** **FL-AN540OP** does not provide any residual weed control in soil to affect germinating weed seeds.

### Mixing and Application Instructions

For use, **FL-AN540OP** is diluted with water to the specified concentration for effective control of the undesirable vegetation. Apply using standard methods of liquid herbicide application. Dilution must be in accordance with label instructions. Do not apply this product through any type of irrigation system.

A 12% v/v dilution is recommended for most weed control situations and based on the results, applicators may increase or decrease spray concentrations as discussed in the following text and tables to obtain better control or to reduce herbicide use.

**The degree of dilution for application is based on the concentration of active ingredient needed for the size of vegetation to be suppressed or the rate of herbicidal effect desired. The larger the vegetation, the**

**higher the concentration (less dilution of FL-AN540OP) required for rapid action. See required concentration for variously sized weeds and grasses in Dosage and Application Rates Section. Hard to control or suppress weeds (perennial weeds and some grasses) may require several applications for complete control.**

Spray equipment options include hand-held, boom sprayers, pressure sprayers and hose-end sprayers. Spray nozzles that produce a uniform spray will give maximum coverage of the leaves and improved weed control. **FL-AN540OP** is completely soluble in water and when uniformly mixed, no additional mixing or agitation is required.

### **Application Precautions**

- Do not apply to weeds when wet from dew, rain or irrigation.
- Do not irrigate within 2 hours after application
- Do not apply if rainfall is expected within 2 hours.

During application, some foaming may occur; however, weed control is unaffected if the foam is deposited on the plant surface and is not blown away as drift. Foaming can be reduced by using the minimum spray pressure required for a uniform application to the target weeds. Use low spray pressure to reduce foaming and avoid contact with desirable plants. Most spray nozzles are designed to operate at 10 to 15 psi and provide uniform spray coverage of weeds.

### **Mixing**

Fill sprayer tank with half the required amount of water, add the full amount of **FL-AN540OP** to be used (see Dilution Factors below), then fill the sprayer tank with the remainder of the water required for the desired final concentration. Since **FL-AN540OP** is completely soluble in water and when uniformly dispersed in water, continuous mixing or agitation is not required.

### **Broadcast Application with Field Sprayer Boom Equipment**

The amount of weed vegetation will determine the spray volume required for complete coverage of undesired plants (weeds). Weed vegetation conditions that affect spray coverage are number of weeds present, leaf shape, weed size and weed species. For weeds of over 1 inch height do not use less than 30 gal/acre. Large weeds of 12 to 18 inch height may require 80 to 125 gal/acre or more for control.

### **Hand-Held Equipment**

Thorough saturation of the foliage and stems is required for control, but stop sprays when run-off from weed leaves occurs. Use low spray pressure to reduce foaming and avoid contact with desirable plants. Most spray nozzles are designed to operate at 10 to 15 psi and provide uniform spray coverage of weeds.

### **Directed Spray Equipment**

Use a shielded sprayer to prevent spray contact on desirable plants. Avoid spray contact of green plant stems or green bark of young trees and shrubs.

**NOTE:** In areas of hard water, the final mixture may appear milky. This condition does not change the effectiveness of the treatment. Some visible foam may appear on the leaves as the plants are sprayed. Overspray or drift onto desirable plants is usually not a serious problem because leaves and stems require a thoroughly wet spray coverage for significant injury. Repeat applications as often as necessary to obtain desired control.

### **Dosage and Application Rates**

For general weed and grass control, rates are based on the size of the plants and/or the desired speed of kill. The larger the plants, the higher the dosage rates needed to ensure maximum herbicidal activity. Also, the higher the

concentration, the quicker the plants wilt and turn brown. Apply **FL-AN540OP** spray solutions only when weed surfaces are dry.

The rate table presents the suggested percent volume/volume solutions of **FL-AN540OP** to use for application as follows:

- Use a 6 to 8 % V/V **FL-AN540OP** spray solution for control of annual weeds of 1 inch height or less and for control of liverworts and mosses.
- Use an 8 to 10% V/V **FL-AN540OP** spray solution for control of annual weeds over 1 inch height and up to 4 inch height.
- Use a 10 to 13% V/V **FL-AN540OP** spray solution for weeds over 4 inch height and for hard to control weeds.
- A 15% V/V **FL-AN540OP** spray solution is the maximum labeled rate for weed control. Use this rate for hard to control perennial weeds or extremely dense weed growth.

Repeat spray applications as necessary to obtain the desired control or suppression of weeds from newly germinated weed seeds and regrowth from roots or stems.

**WEED CONTROL RATE TABLE**

Final Spray Volume (gallons)	Amount of <b>FL-AN540OP</b> for Percent V/V (Volume/Volume) Solution				
	6%	8%	10%	13%	15%
1	8 fl oz	10 fl oz	13 fl oz	1 pt	1.2 pt
2	1 pt	1.3 pt	1.6 pt	2 pt	2.4 pt
5	2.5 pt	3.3 pt	4 pt	5 pt	6 pt
10	5 pt	6.5 pt	1 gal	1.3 gal	1.5 gal
20	1.3 gal	1.6 gal	2 gal	2.6 gal	3.0 gal

Height of Plants to be Controlled

1 inch or less  
1 to 3 inches  
Above 3 inches

Spray Solution (% V/V)

6 to 8%  
8 to 10%  
10 to 13%

**Use Methods**

Determine the weed control situation and select the use method required as follows:

- Vegetative Burndown:** Broadcast spray for weed control for no-till planting or seedbed preparation to control weeds prior to seeding or transplanting. Spot sprays may be used in ornamentals and turf.
- Directed and shielded sprays:** Spray nozzle type or configuration for directed spray or a shield placed around the nozzle to prevent spray contact on the foliage or green stems or bark. Directed/shielded spray applications to area between plastic mulch strips and staked crops for weed control.

## PESTS

### I. Weeds controlled or suppressed by FL-AN540OP:

#### COMMON NAMES

#### TAXONOMIC NAMES

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##### Broadleaf Weeds:

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Algae	<i>Gloeocapsa magma</i>
Bittercress, hairy	<i>Cardamine hirsuta</i>
Chickweed, common	<i>Stellaria media</i>
Chickweed, mouse-ear	<i>Cerastium vulgatum</i>
Cocklebur, common	<i>Xanthium strumarium</i>
Corn spurry	<i>Spergula arvensis</i>
Cudweed, purple	<i>Gnaphalium purpureum</i>
Groundsel	<i>Senecio spp.</i>
Lambsquarters, common	<i>Chenopodium album</i>
Liverwort	<i>Machantia spp.</i>
Marestail or Horseweed rosettes	<i>Conyza canadensis</i>
Morningglory, annual	<i>Ipomoea spp.</i>
Moss	<i>Bryophyta</i>
Mustards	<i>Brassica spp.</i>
Oxalis or Woodsorrel	<i>Oxalis stricta</i>
Pansy, wild	<i>Viola tricolor</i>
Plantain	<i>Plantago spp.</i>
Pigweed, smooth and redroot	<i>Amaranthus spp.</i>
Mallow, roundleaved	<i>Malva spp.</i>
Moneywort	<i>Lysimachia nummularia</i>
Shepherdspurse	<i>Capsella bursa-pastoris</i>
Sorrel, sheep	<i>Rumex acetosella</i>
Spurge, spotted	<i>Euphorbia maculata</i>
Field pennycress	<i>Thiaspi arvense</i>
Velvetleaf	<i>Abutilon theophrasti</i>

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##### Grass and Other Weeds:

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Bentgrass, colonial	<i>Agrostis tenuis</i>
Bluegrass, annual	<i>Poa annua</i>
Crabgrass, large	<i>Digitaria sanguinalis</i>
Fescue, creeping red	<i>Festuca rubra</i>
Fescue, hard	<i>Festuca ovina</i>
Nimblewill	<i>Muhlenbergia scheberi</i>
Onion, wild	<i>Allium canadense</i>
Ryegrass, perennial	<i>Lolium perenne</i>
Star-of-Bethlehem	<i>Ornithogalum nutans</i>

### II. Weeds Moderately Difficult to Control<sup>1</sup>

Bermudagrass (Wireweed)	<i>Cynodon dactylon</i>
Bindweed, field	<i>Convolvulus arvensis</i>
Dandelion	<i>Taraxacum officinale</i>
Nutsedge, yellow	<i>Cyperus esculentus</i>
Ragweed, common	<i>Ambrosia artemisiifolia</i>

<sup>1</sup>Use 13 to 15% V/V FL-AN540OP for control or suppression

## STORAGE AND DISPOSAL

**DO NOT** contaminate water, food or feed by storage or disposal.

**Pesticide Storage:** Store container in cool place until used. Store at temperatures above 32° F.

**Pesticide Disposal:** Wastes resulting from use of this product must be disposed of on-site or at an approved waste disposal facility.

### **Container Handling:**

**Non-refillable Containers:** Do not reuse or refill this container. Offer for recycling if available.

**Clean container promptly after emptying (liquid formulations).**

**Non-refillable container equal to or less than 5 gals:** Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

**Non-refillable container between 5- 55 gals:** Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

**Refillable container 5 gals to bulk:** Refill this container with this pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. . Repeat this rinsing procedure two more times. Dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

For non-medical emergencies or spills, see **FL-AN540OP** SDS or call CHEMTREC at 800-424-9300.

### **Warranty and Disclaimer Notice:**

To the extent consistent with applicable law, Falcon Lab, LLC, makes no warranty or guarantee of any kind, expressed or implied concerning the effects of use of this product, other than those specified on this label.

Buyers or users accept all responsibility for results due to misuse or improper handling of this product.

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